

Rejection of Claims 1 - 4, 9 - 10 and 27 under 35 U.S.C. 103(a) over Blau et al, Lund et al '059, Wardle et al, Highsmith et al, Yoshida et al '446 and Redecker '485

Claims 1 - 4 and 9 - 10 and 27 under 35 U.S.C. 103(a) were rejected as obvious over Blau et al, Lund et al '059, Wardle et al, Highsmith et al, Yoshida et al '446 and Redecker. The Examiner alleges that Blau teaches the basic invention, which includes tetrazole fuel, with various oxidizers, including metal peroxides, perchlorates, nitrates, and mixtures thereof. The Examiner takes the position that substitution of specific notoriously well known ingredients, amounts or specific mixtures thereof would have been obvious to one of ordinary skill in the art. The Examiner further alleges that Lund teaches a plurality or mixture of oxidizers, that Wardle teaches zinc peroxide, that Highsmith generally suggests mixtures and teaches a plurality of oxidizers, that Yoshida shows three oxidizers, and that Redecker shows examples with 5AT and a plurality of oxidizers, including zinc peroxide and a plurality of other added conventional oxidizers. The Examiner takes the position that optimizing a result effective variable is within the expected ability of a person of ordinary skill in the art and that where the ingredients are well known and combined for their known properties, the combination is obvious, absent unexpected results. The Examiner alleges that the present invention seems mere optimization of parameters by mixing known ingredients.

This rejection is traversed. The present invention, as set forth in independent Claim 1, relates to a gas-producing composition for gas generators comprising a fuel selected from a group of specific nitrogen-containing compounds and three oxidants, two of which, zinc peroxide and potassium perchlorate, are specifically named, the

third oxidant being a nitrate. Thus, Claim 1 is specifically directed to the embodiments set forth in Examples 1 to 5 of the application.

A gas-generating composition having a nitrogen-containing fuel and all three of zinc peroxide and potassium perchlorate and a nitrate is not taught by the cited references. It is respectfully submitted that the selection of the particular oxidizers is not mere optimization of variables, as alleged by the Examiner, because applicants have shown in the specification that with the combination of the particular oxidants of the claimed invention, there is an astonishing, unexpected and significant reduction in the amount of CO generated by the combustion of the mixture, in comparison with mixtures that do not have this particular combination. There is nothing in the cited art that would guide a person skilled in the art select these particular oxidants out of the huge number of possible oxidants, to achieve this effect.

Accordingly, it is respectfully submitted that Claims 1 - 4, 9 - 10, 27 and 31 would not have been obvious over Blau et al, Lund et al '059, Wardle et al, Highsmith et al, Yoshida et al '446 and Redecker '485.

Rejection of Claims 1 - 4, 9 - 10, 27 and 31 under the judicially created doctrine of obviousness-type double patenting over Claims 1 - 15, 18 and 19 of U.S. Patent No. 6,453,816

Claims 1 - 4, 6 - 7, 9 - 10 and 27 under the judicially created doctrine of obviousness-type double patenting over Claims 1 - 15, 18 and 19 of U.S. Patent No. 6,453,816. This rejection is traversed. As discussed above, independent Claim 1 relates to a gas-producing composition for gas generators comprising a fuel selected from a group of specific nitrogen-containing compounds and three oxidants, two of

which, zinc peroxide and potassium perchlorate, are specifically named, the third oxidant being a nitrate. Such a gas-generating composition is neither taught nor suggested by Claims 1 - 15, 18 and 19 of U.S. Patent No. 6,453,816. Claims 1 - 15, 18 and 19 of U.S. Patent No. 6,453,816 relate to a composition that includes a gas-generating mixture and a temperature fuse. The temperature fuse is defined more specifically in the dependent claims, but the gas generating mixture is not more specifically defined. Clearly, in the claims of '816, the temperature fuse is defined as being something different and distinct from the gas generating mixture. As discussed in Column 1, lines 13 - 32, a temperature fuse defined as a substance or mixture that ensures that the reaction of a gas-generating mixture is thermally triggered below a critical temperature. (Although Claim 15 provides that the gas-generating mixture and the temperature fuse can be a homogenous mixture, it is clearly seen in the description on Column 2, lines 63 to Column 3, line 10 that the temperature fuse and the gas generating mixture as seen as two different and distinct compositions that are subsequently mixed.) Because of the different functions and requirements of a temperature fuse and a gas-generating mixture, a person skilled in the art would not look to teachings regarding the composition of a temperature fuse for guidance in selecting ingredients for a gas-generating mixture. Accordingly, it is respectfully submitted that Claims 1 - 4, 9 - 10, 27 and 31 are patentably distinct from Claims 1 - 15, 18 and 19 of U.S. Patent No. 6,453,816.

Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that Claims 1 - 4, 9 - 11, 14 and 28 - 29 are in condition for allowance. Favorable

reconsideration is respectfully requested.

Should the Examiner believe that anything further is necessary to place this application in condition for allowance, the Examiner is requested to contact applicants' undersigned attorney at the telephone number listed below.

Kindly charge any additional fees due, or credit overpayment of fees, to Deposit Account No. 01-2135 (306.35565X00).

Respectfully submitted,

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